\_\_\_\_\_\_

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Keisha Douglas

Timestamp: [year=2008; month=9; day=10; hr=15; min=10; sec=15; ms=998; ]

\_\_\_\_\_\_

## Validated By CRFValidator v 1.0.3

Application No: 10598682 Version No: 1.0

Input Set:

Output Set:

**Started:** 2008-08-11 11:17:24.606

Finished: 2008-08-11 11:17:26.881

**Elapsed:** 0 hr(s) 0 min(s) 2 sec(s) 275 ms

Total Warnings: 22

Total Errors: 0

No. of SeqIDs Defined: 57

Actual SeqID Count: 57

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Input Set:

Output Set:

**Started:** 2008-08-11 11:17:24.606

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Total Warnings: 22

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No. of SeqIDs Defined: 57

Actual SeqID Count: 57

Error code Error Description

This error has occured more than 20 times, will not be displayed

## SEQUENCE LISTING

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        35
Ala Gly Thr Ser Gly Ser Ser Leu Ser Phe His Ser Thr Val Ile Asn
     50
                       55
His Tyr Arg Met Arg Gly His Ser Pro Phe Ala Asn Leu Lys Ser Cys
                     70
                                        75
65
Cys Val Pro Thr Lys Leu Arg Pro Met Ser Met Leu Tyr Tyr Asp Asp
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gagggtgagt gcccgagcca tatagcaggc acgtccgggt cctcactgtc cttccactca 180
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Pro Asp Cys Pro Ser Cys Ala Leu Ala Ala Leu Pro Lys Asp Val Pro 35 40 45

Asn Ser Gln Pro Glu Met Val Glu Ala Val Lys Lys His Ile Leu Asn 50 60

Met Leu His Leu Lys Lys Arg Pro Asp Val Thr Gln Pro Val Pro Lys
65 70 75 80

Ala Ala Leu Leu Asn Ala Ile Arg Lys Leu His Val Gly Lys Val Gly
85
90
95

Glu Asn Gly Tyr Val Glu Ile Glu Asp Asp Ile Gly Arg Arg Ala Glu
100 105 110

Met Asn Glu Leu Met Glu Gln Thr Ser Glu Ile Ile Thr Phe Ala Glu
115 120 125

Ser Gly Thr Ala Arg Lys Thr Leu His Phe Glu Ile Ser Lys Glu Gly
130 135 140

Val Pro Lys Ala Asn Arg Thr Arg Thr Lys Val Thr Ile Arg Leu Phe 165 170 175

Gln Gln Gln Lys His Pro Gln Gly Ser Leu Asp Thr Gly Glu Glu Ala 180 185 190

Glu Glu Val Gly Leu Lys Gly Glu Arg Ser Glu Leu Leu Leu Ser Glu
195 200 205

Lys Val Val Asp Ala Arg Lys Ser Thr Trp His Val Phe Pro Val Ser 210 215 220

Ser 225	Ser	Ile	Gln	Arg	Leu 230	Leu	Asp	Gln	Gly	Lys 235	Ser	Ser	Leu	Asp	Val 240
Arg	Ile	Ala	Суз	Glu 245	Gln	Суз	Gln	Glu	Ser 250	Gly	Ala	Ser	Leu	Val 255	Leu
Leu	Gly	Lys	Lys 260	Lys	Lys	Lys	Glu	Glu 265	Glu	Gly	Glu	Gly	Lys 270	Lys	Lys
Gly	Gly	Gly 275	Glu	Gly	Gly	Ala	Gly 280	Ala	Asp	Glu	Glu	Lys 285	Glu	Gln	Ser
His	Arg 290	Pro	Phe	Leu	Met	Leu 295	Gln	Ala	Arg	Gln	Ser 300	Glu	Asp	His	Pro
His 305	Arg	Arg	Arg	Arg	Arg 310	Gly	Leu	Glu	Cys	Asp 315	Gly	Lys	Val	Asn	Ile 320
Cys	Cys	Lys	Lys	Gln 325	Phe	Phe	Val	Ser	Phe 330	Lys	Asp	Ile	Gly	Trp 335	Asn
Asp	Trp	Ile	Ile 340	Ala	Pro	Ser	Gly	Tyr 345	His	Ala	Asn	Tyr	Суs 350	Glu	Gly
Glu	Суз	Pro 355	Ser	His	Ile	Ala	Gly 360	Thr	Ser	Gly	Ser	Ser 365	Leu	Ser	Phe
His	Ser 370	Thr	Val	Ile	Asn	His 375	Tyr	Arg	Met	Arg	Gly 380	His	Ser	Pro	Phe
Ala 385	Asn	Leu	Lys	Ser	Cys 390	Cys	Val	Pro	Thr	Lys 395	Leu	Arg	Pro	Met	Ser 400
Met	Leu	Tyr	Tyr	Asp 405	Asp	Gly	Gln	Asn	Ile 410	Ile	Lys	Lys	Asp	Ile 415	Gln
Asn	Met	Ile	Val 420	Glu	Glu	Cys	Gly	Cys 425	Ser						
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1	- 5			5	- 1-				10	- 5	- 5	- 9	- 5	15	
Glu	Cys	Asp	Gly 20	Lys	Val	Asn	Ile	Cys 25	Cys	Lys	Lys	Gln	Phe 30	Phe	Val
Ser	Phe	Lys 35	Asp	Ile	Gly	Trp	Asn 40	Asp	Trp	Ile	Ile	Ala 45	Pro	Ser	Gly

Tyr His Ala Asn Tyr Cys Glu Gly Glu Cys Pro Ser His Ile Ala Gly

50 55 60

Thr Ser Gly Ser Ser Leu Ser Phe His Ser Thr Val Ile Asn His Tyr
65 70 75 80

Arg Met Arg Gly His Ser Pro Phe Ala Asn Leu Lys Ser Cys Cys Val 85 90 95

Pro Thr Lys Leu Arg Pro Met Ser Met Leu Tyr Tyr Asp Asp Gly Gln 100 105 110

Asn Ile Ile Lys Lys Asp Ile Gln Asn Met Ile Val Glu Glu Cys Gly
115 120 125

Cys Ser 130

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<211> 115

<212> PRT

<213> Homo sapiens

<400> 5

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Phe Val Ser Phe Lys Asp Ile Gly Trp Asn Asp Trp Ile Ile Ala Pro
20 25 30

Ser Gly Tyr His Ala Asn Tyr Cys Glu Gly Glu Cys Pro Ser His Ile 35 40 45

His Tyr Ala Cys Gly His Ser Pro Phe Ala Asn Leu Lys Ser Cys Cys 65 70 75 80

Val Pro Thr Lys Leu Arg Pro Met Ser Met Leu Tyr Tyr Asp Asp Gly 85 90 95

Gln Asn Ile Ile Lys Lys Asp Ile Gln Asn Met Ile Val Glu Glu Cys 100 105 110

Gly Cys Ser 115

<210> 6

<211> 426

<212> PRT

<213> Homo sapiens

<400> 6

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1 5 10 15

Ile	Val	Arg	Ser 20	Ser	Pro	Thr	Pro	Gly 25	Ser	Glu	Gly	His	Ser 30	Ala	Ala
Pro	Asp	Cys 35	Pro	Ser	Суз	Ala	Leu 40	Ala	Ala	Leu	Pro	Lys 45	Asp	Val	Pro
Asn	Ser 50	Gln	Pro	Glu	Met	Val 55	Glu	Ala	Val	Lys	Lys 60	His	Ile	Leu	Asn
Met 65	Leu	His	Leu	Lys	Lys 70	Arg	Pro	Asp	Val	Thr 75	Gln	Pro	Val	Pro	Lys 80
Ala	Ala	Leu	Leu	Asn 85	Ala	Ile	Arg	Lys	Leu 90	His	Val	Gly	Lys	Val 95	Gly
Glu	Asn	Gly	Tyr 100	Val	Glu	Ile	Glu	Asp 105	Asp	Ile	Gly	Arg	Arg 110	Ala	Glu
Met	Asn	Glu 115	Leu	Met	Glu	Gln	Thr 120	Ser	Glu	Ile	Ile	Thr 125	Phe	Ala	Glu
Ser	Gly 130	Thr	Ala	Arg	Lys	Thr 135	Leu	His	Phe	Glu	Ile 140	Ser	Lys	Glu	Gly
Ser 145	Asp	Leu	Ser	Val	Val 150	Glu	Arg	Ala	Glu	Val 155	Trp	Leu	Phe	Leu	Lys 160
Val	Pro	Lys	Ala	Asn 165	Arg	Thr	Arg	Thr	Lys 170	Val	Thr	Ile	Arg	Leu 175	Phe
Gln	Gln	Gln	Lys 180	His	Pro	Gln	Gly	Ser 185	Leu	Asp	Thr	Gly	Glu 190	Glu	Ala
Glu	Glu	Val 195	Gly	Leu	Lys	Gly	Glu 200	Arg	Ser	Glu	Leu	Leu 205	Leu	Ser	Glu
Lys	Val 210	Val	Asp	Ala	Arg	Lys 215	Ser	Thr	Trp	His	Val 220	Phe	Pro	Val	Ser
225					230		_			235				Asp	240
_				245					250					Val 255	
	_	_	260					265					270	Lys	_
	_	275					280		-			285		Gln	
His	Arg 290	Pro	Phe	Leu	Met	Leu 295	Gln	Ala	Arg	Gln	Ser 300	Glu	Asp	His	Pro
His 305	Arg	Arg	Arg	Arg	Arg 310	Gly	Leu	Glu	Cys	Asp 315	Gly	Lys	Val	Asn	Ile 320

Cys Cys Lys Lys Gln Phe Phe Val Ser Phe Lys Asp Ile Gly Trp Asn 325 330 Asp Trp Ile Ile Ala Pro Ser Gly Tyr His Ala Asn Tyr Cys Glu Gly 345 340 Glu Cys Pro Ser His Ile Ala Gly Thr Ser Gly Ser Ser Leu Ser Phe 360 His Ser Thr Val Ile Asn His Tyr Arg Met Arg Gly His Ser Pro Phe 375 380 Ala Asn Leu Lys Ser Cys Cys Val Pro Thr Lys Leu Arg Pro Met Ser 390 395 Met Leu Tyr Tyr Asp Asp Gly Gln Asn Ile Ile Lys Lys Asp Ile Gln 405 410 415 Asn Met Ile Val Glu Glu Cys Gly Cys Ser 420 425 <210> 7 <211> 424 <212> PRT <213> Mus musculus Met Pro Leu Leu Trp Leu Arg Gly Phe Leu Leu Ala Ser Cys Trp Ile 5 Ile Val Arg Ser Ser Pro Thr Pro Gly Ser Glu Gly His Gly Ser Ala 20 25 Pro Asp Cys Pro Ser Cys Ala Leu Ala Thr Leu Pro Lys Asp Gly Pro 40 Asn Ser Gln Pro Glu Met Val Glu Ala Val Lys Lys His Ile Leu Asn 55 Met Leu His Leu Lys Lys Arg Pro Asp Val Thr Gln Pro Val Pro Lys 75 70 Ala Ala Leu Leu Asn Ala Ile Arg Lys Leu His Val Gly Lys Val Gly Glu Asn Gly Tyr Val Glu Ile Glu Asp Asp Ile Gly Arg Arg Ala Glu 100 105 110 Met Asn Glu Leu Met Glu Gln Thr Ser Glu Ile Ile Thr Phe Ala Glu 115 120 Ser Gly Thr Ala Arg Lys Thr Leu His Phe Glu Ile Ser Lys Glu Gly 130 135 140

Ser Asp Leu Ser Val Val Glu Arg Ala Glu Val Trp Leu Phe Leu Lys

145 150 155 160

Val Pro Lys Ala Asn Arg Thr Arg Thr Lys Val Thr Ile Arg Leu Phe 165 170 175

Gln Gln Gln Lys His Pro Gln Gly Ser Leu Asp Thr Gly Asp Glu Ala 180 185 190

Glu Glu Met Gly Leu Lys Gly Glu Arg Ser Glu Leu Leu Ser Glu
195 200 205

Lys Val Val Asp Ala Arg Lys Ser Thr Trp His Ile Phe Pro Val Ser 210 215 220

Ser Ser Ile Gln Arg Leu Leu Asp Gln Gly Lys Ser Ser Leu Asp Val 225 230 235 240

Arg Ile Ala Cys Glu Gln Cys Gln Glu Ser Gly Ala Ser Leu Val Leu 245 250 255

Leu Gly Lys Lys Lys Lys Glu Val Asp Gly Asp Gly Lys Lys 260 265 270

Asp Gly Ser Asp Gly Gly Leu Glu Glu Glu Lys Glu Gln Ser His Arg 275 280 285

Pro Phe Leu Met Leu Gln Ala Arg Gln Ser Glu Asp His Pro His Arg 290 295 300

Arg Arg Arg Gly Leu Glu Cys Asp Gly Lys Val Asn Ile Cys Cys 305 310 315 320

Lys Lys Gln Phe Phe Val Ser Phe Lys Asp Ile Gly Trp Asn Asp Trp 325 330 335

Ile Ile Ala Pro Ser Gly Tyr His Ala Asn Tyr Cys Glu Gly Glu Cys 340 345 350

Pro Ser His Ile Ala Gly Thr Ser Gly Ser Ser Leu Ser Phe His Ser 355 360 365

Thr Val Ile Asn His Tyr Arg Met Arg Gly His Ser Pro Phe Ala Asn 370 375 380

Leu Lys Ser Cys Cys Val Pro Thr Lys Leu Arg Pro Met Ser Met Leu 385 390 395 400

Tyr Tyr Asp Asp Gly Gln Asn Ile Ile Lys Lys Asp Ile Gln Asn Met  $405 \hspace{1.5cm} 410 \hspace{1.5cm} 415$ 

Ile Val Glu Glu Cys Gly Cys Ser 420

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<211> 424

<212> PRT

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- Ile Val Arg Ser Ser Pro Thr Pro Gly Ser Glu Gly His Gly Ala Ala  $20 \hspace{1.5cm} 25 \hspace{1.5cm} 30$
- Pro Asp Cys Pro Ser Cys Ala Leu Ala Thr Leu Pro Lys Asp Gly Pro 35 40 45
- Asn Ser Gln Pro Glu Met Val Glu Ala Val Lys Lys His Ile Leu Asn 50 55 60
- Met Leu His Leu Lys Lys Arg Pro Asp Val Thr Gln Pro Val Pro Lys 65 70 75 80
- Ala Ala Leu Leu Asn Ala Ile Arg Lys Leu His Val Gly Lys Val Gly
  85 90 95
- Glu Asn Gly Tyr Val Glu Ile Glu Asp Asp Ile Gly Arg Arg Ala Glu 100 105 110
- Met Asn Glu Leu Met Glu Gln Thr Ser Glu Ile Ile Thr Phe Ala Glu
  115 120 125
- Ser Gly Thr Ala Arg Lys Thr Leu His Phe Glu Ile Ser Lys Glu Gly
  130 135 140
- Val Pro Lys Ala Asn Arg Thr Arg Thr Lys Val Thr Ile Arg Leu Phe 165 170 175
- Gln Gln Gln Lys His Pro Gln Gly Ser Leu Asp Met Gly Asp Glu Ala 180 185 190
- Glu Glu Met Gly Leu Lys Gly Glu Arg Ser Glu Leu Leu Ser Glu
  195 200 205
- Lys Val Val Asp Ala Arg Lys Ser Thr Trp His Ile Phe Pro Val Ser 210 215 220
- Ser Ser Ile Gln Arg Leu Leu Asp Gln Gly Lys Ser Ser Leu Asp Val 225 230 235 240
- Arg Ile Ala Cys Glu Gln Cys Gln Glu Ser Gly Ala Ser Leu Val Leu 245 250 255
- Leu Gly Lys Lys Lys Lys Glu Val Asp Gly Asp Gly Lys Lys 260 265 270
- Asp Gly Ser Asp Gly Gly Leu Glu Glu Glu Lys Glu Gln Ser His Arg 275 280 285

Pro Phe Leu Met Leu Gln Ala Arg Gln Ser Glu Asp His Pro His Arg